

**Japanese Unexamined Patent Publication  
No. 296988/1998 (Tokukaihei 10-296988)**

A. Relevance of the Above-identified Document

The following is a partial English translation of exemplary portions of non-English language information that may be relevant to the issue of patentability of the claims of the present application.

B. Translation of the Relevant Passages of the Document

See also the attached English Abstract.

[EMBODIMENTS]

[0028]

Generally, one of the causes of ink leakage from the inside of the ink container is reduction of the negative pressure in the ink container due to variations of volume and pressure of the air inside the ink container according to variations of a temperature and an atmospheric pressure (environmental variations). That is, when the volume of the air expands due to e.g. a temperature rise and thereby the negative pressure in the ink container is reduced, the ink container becomes unable to maintain the ink, resulting in the ink leakage.

[0029]

Such environmental variations occur under usual usage conditions where the supply port 9 of the ink

container 1 is connected to the flow path 16 of the head. However, the ink container 1 alleviates the influence of the environmental variations and does not allow for the link leakage because the ink container 1 has the air passage hole 4 occluded by an absorber 8 having an affinity for ink and has an airtight bag 13.

[0030]

Specifically, when the ink container 1 is filled with the ink 20, as illustrated in Fig. 5(1), the ink container 1 contains almost no air. Thus, there rarely occur variations of the negative pressure inside the ink container 1 due to the environmental variations. However, when the ink container 1 contains such amounts of the ink 20 as illustrated in Figs. 5(2) and 5(3), the ink container 1 contains air 30. The air 30 varies in volume and pressure according to the environmental variations.

[0031]

In this case, if the volume of the air 30 is contracted, the negative pressure inside the ink container 1 is increased. However, air is supplied from the air passage hole 4, so that the negative pressure (negative pressure P) is maintained at a predetermined negative pressure or lower pressures. On the other hand, if the volume of the air 30 is expanded, the negative pressure inside the ink container 1 is decreased. Since the spring 15 constantly has a contracting force acting onto the airtight bag 13

along a contracting direction, the airtight bag 13 is contracted. This alleviates the variation of the negative pressure, and thereby preventing leakage of the ink 20.

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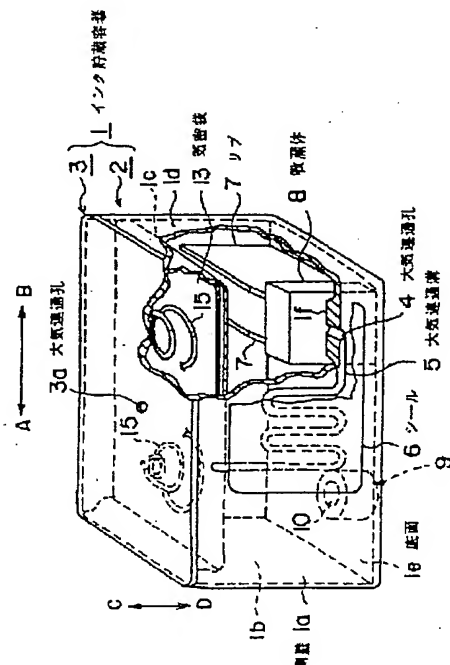
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(54)【発明の名称】 インク貯蔵容器

(57)【要約】

【課題】 インク貯蔵容器内の負圧を所望の範囲に保ち、インクを最後まで使い切る。

【解決手段】 インク貯蔵容器1 (インクタンク1) の側壁1 aには大気連通孔4が形成され、側壁1 aの外面には一端が大気連通孔4と連通する大気連通溝5が複数折れ曲って形成されている。他端を除く大気連通溝5及び大気連通孔4はシール6により密閉されている。側壁1 cには大気連通孔4に向けてリブ7が設けられ、リブ7と側壁1 aの間には、大気連通孔4を塞ぐ親インク性の吸蔵体8が挿入してある。フタ3の内面には、大気連通孔3 aを介してのみ大気と連通する伸縮可能な気密袋13が設けられ、バネ15により矢印C方向に引っ張られている。



本発明に係る発明の形態の図面におけるインク貯蔵容器を示す縦断線図